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the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. Agilent Technologies, Inc. **Application Number** 09/456,603 Intellectual Property Administration Filing Date Legal Dept., M/S DL 429 December 8, 1999 P.O. Box 7599 First Named Inventor Robert W. Dmitroca Loveland, CO 80537-0599 Art Unit 2141 **Examiner Name** S. Willett Attorney Docket Number 18 10981247-1 Total Number of Pages in This Submission ENCLOSURES (Check all that apply) After Allowance Communication Fee Transmittal Form Drawing(s) to Group Appeal Communication to Board of Fee Attached Licensing-related Papers Appeals and Interferences Appeal Communication to Group Petition Amendment/Reply (Appeal Notice, Brief, Reply Brief) Petition to Convert to a After Final Proprietary Information **Provisional Application** Power of Attorney, Revocation Change of Correspondence Address Affidavits/declaration(s) Status Letter Other Enclosure(s) (please Extension of Time Request Terminal Disclaimer identify below): Request to Reinstate Earlier Filed **Express Abandonment Request** Request for Refund Appeal and Notice of Appeal from the Examiner Information Disclosure Statement CD, Number of CD(s) Return Postcards (2) Certified Copy of Priority Document(s) Remarks RECEIVED Response to Missing Parts/ Incomplete Application Response to Missing Parts DEC 2 4 2003 under 37 CFR 1.52 or 1.53 Technology Center 2100

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	SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT
Firm or Individual name	Attorney/Agent for Applicant(s) Michael A. Papalas
Signature	
Date	December 18, 2003

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(John Pallivathukal)

12-19-05

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AF

Docket No.: 10981247-1

(PATENT)

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Robert W. Dmitroca

Application No.: 09/456,603

Application 110.. 02/430,003

Filed: December 8, 1999

For: METHOD AND SYSTEM FOR MANAGING

PERFORMANCE DATA ABOUT A

**NETWORK** 

Group Art Unit: 2141

Examiner: S. Willett

# REQUEST TO REINSTATE EARLIER FILED APPEAL AND

NOTICE OF APPEAL FROM THE EXAMINER TO
THE BOARD OF OF PATENT APPEALS AND
INTERFERENCES

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DEC 2 4 2003

MS Appeal Brief – Patents Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

**Technology Center 2100** 

Dear Sir:

This letter submits a notice of appeal and requests reinstatement of the Appeal filed July 15, 2003. Applicants hereby appeal to the Board of Patent Appeals and Interferences from the decision of the Primary Examiner mailed September 24, 2003. The notice of appeal form PTO/SB/31 and a Supplemental Appeal Brief, filed in triplicate, is submitted herein.

## **Fees**

Please note that no fees are believed to be due with this request to reinstate the Appeal filed July 15, 2003 and Supplemental Appeal Brief. If prosecution was reopened prior to a decision on the merits by the Board of Patent Appeals and

Interferences, the fee paid for the notice of appeal, appeal brief, and request for oral hearing will be applied to a later appeal on the same application. See MPEP § 1208.02. Prosecution of the current application was reopened by the Examiner with the Office Action mailed September 24, 2003, and thus, no fee is due with this notice to reinstate the appeal, as the Notice of Appeal and Appeal fees were submitted, respectively, with the Notice of Appeal filed May 15, 2003 and the Appeal filed July 15, 2003.

Please date stamp and return the enclosed postcard to evidence receipt of this document.

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV256030729US, in an envelope addressed to: MS Appeal Brief – Patent, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: 12/18/03

Signature:

1 VALLEY

Respectfully submitted,

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#124

AGILENT TECHNOLOGIES, INC.

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P.O. Box 7599 Celand, Colorado 80537-0599

Docket No.: 10981247-1

(PATENT)

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Robert W. Dmitroca

Application No.: 09/456,603

Filed: December 8, 1999

For: METHOD AND SYSTEM FOR MANAGING

PERFORMANCE DATA ABOUT A

NETWORK

Confirmation No.: 6669

Art Unit: 2141

Examiner: S. Willett

## SUPPLEMENTAL APPELLANT'S BRIEF

MS Appeal Brief - Patents Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 **RECEIVED** 

DEC 2 4 2003

Technology Center 2100

Dear Sir:

This brief is in furtherance of the Notice of Appeal, filed concurrently herewith.

## **Fees**

Please note that no fees are believed to be due with the filing of this Supplemental Appeal Brief. If prosecution was reopened prior to a decision on the merits by the Board of Patent Appeals and Interferences, the fee paid for the appeal brief will be applied to a later appeal on the same application. See MPEP § 1208.02. Prosecution of the current application was reopened by the Examiner with the Office Action mailed September 24, 2003, and thus, no Appeal fee is due with this Supplemental Appeal Brief as the Appeal fee was previously submitted along with the Transmittal of Appeal Brief and the Appeal Brief which were both filed on July 15, 2003.

This brief is transmitted in triplicate.

This brief contains items under the following headings as required by 37 C.F.R. § 1.192 and M.P.E.P. § 1206:

I. Real Party In Interest

II Related Appeals and Interferences

III. Status of Claims

IV. Status of Amendments

V. Summary of Invention

VI. Issues

A. First Issue

B. Second Issue

C. Third Issue

VII. Grouping of Claims

VIII. Arguments

A. Arguments Presented in First Appeal Brief

B. First Issue

1. Rejection Under 35 U.S.C. §102(e)--Baker

2. Conclusion

C. Second Issue

1. Rejection Under 35 U.S.C. §103(a)--Baker & Fletcher

2. Conclusion

D. Third Issue

1. Rejection Under 35 U.S.C. §103(a)--Baker & Siu

2. Conclusion

IX. Claims Involved in the Appeal

Appendix A Claims

# I. REAL PARTY IN INTEREST

The real party in interest for this appeal is Agilent Technologies, Inc., a Delaware corporation having its principal place of business in Palo Alto, California.

## II. RELATED APPEALS AND INTERFERENCES

This Supplemental Appeal concerning the pending application, (serial number 09/456,603), is related to the first Appeal filed on July 15, 2003 concerning the same application (serial number 09/456,603).

## III. STATUS OF CLAIMS

# A. Total Number of Claims in Application

There are 20 claims pending in application.

#### B. Current Status of Claims

- 1. Claims canceled: None
- 2. Claims withdrawn from consideration but not canceled: None
- 3. Claims pending: Claims 1-20
- 4. Claims allowed: None
- 5. Claims rejected: Claims 1-7 and 12-17.
- 6. Claims objected to: Claims 8-11 and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowed if rewritten in independent form including all limitations of the base claim and any intervening claims.

# C. Claims On Appeal

The claims on appeal are claims 1-20.

# IV. STATUS OF AMENDMENTS

Appellant filed a Response dated January 17, 2003, after the Final Office Action of November 22, 2002. This Response made no changes to the claims. Appellant presented arguments traversing the final rejection of the claims in the Response. The Examiner responded to the arguments in the Advisory Action mailed February 6, 2003, in which the Examiner stated the arguments have been considered, but do not place the application in condition for allowance. Appellant responded to the Advisory Action with an Appeal Brief filed July 15, 2003. In response to the Appeal Brief filed July 15, 2003, the Examiner reopened prosecution by issuing the Office Action mailed on September 24, 2003. In response to the Office Action of September 24, 2003, Appellant files this Supplemental Appeal Brief.

Appellant respectfully submits an amendment to dependent claim 17 with this Supplemental Appeal Brief. This amendment corrects a typographical error so that claim 17 correctly depends from base claim 12. As such, the amendment does not introduce new

matter. Accordingly, the claims enclosed herein as Appendix A incorporate this amendment to dependent claim 17.

## V. SUMMARY OF INVENTION

Latency graphs (50 of FIGURE 5), which are plots of time delay verses frequency of occurrence, are key measures of the performance of a packet switched network, such as the Internet. Latency graphs are used in the calculation of jitter. Jitter is a degradation in the quality of real-time services such as video or voice applications caused by inconsistent delays in the transmission of data packets, i.e. some packets arrive later and other packets arrive earlier. Real-time applications require a constant rate of data, and if the data is unduly delayed, then the service deteriorates. For example, when a voice service suffers from jitter, the conversation is distorted as portions are faster than normal and other portions are slower than normal. Thus, latency graphs are an important metric in measuring the performance and quality of service of a packet network.

The embodiments of the invention involve systems and methods which use adaptive bin sizing during delay value collection (page 8, line 1-20). The inventive mechanism begins with a small bin range and then increases the range as required. The inventive mechanism uses an array (14 of FIGURE 1) to serve as the delay bins, with each element of the array representing a separate bin. Each delay value will cause a particular element of the array to be incremented. The particular bin which will be incremented is determined from the delay value. If the delay value is larger than the range of the largest ranged bin, then the range of the bins must be adjusted (page 10, line 26 – page 12, line 25). This adjustment must take the values of the original array and compress them into the new ranges. For example if the bin range is doubled, then each new bin in the lower half of the array must be the sum of two adjacent bins, and the upper half of the array must be set to zero. This adjustment in bin size must be made quickly, as delay values are arriving during the adjustment. For example, in a gigabit-bit Ethernet link with 64 byte packets, a delay value would arrive into the measurement system every 512 ns (page 8, lines 26-27). Note that software is too slow to handle the adjustment, and thus hardware is used to re-compute and re-fill the bins. The information stored in the bins is used to form latency graphs. The values of the various bins can be displayed at any time, and thus, the inventive mechanism provides real-time information of the network latency.

## VI. ISSUES

# **Issues Presented in First Appeal Brief**

The issues that were presented in the first Appeal Brief filed on July 15, 2003 are believed to be withdrawn. The first, second, and third issues, detailed below, arise from the Office Action mailed September 24, 2003.

## A. First Issue

The first issue is whether claims 1-4 and 12-14 are rejected under 35 U.S.C. §102(e) as being anticipated by *Baker* as asserted by the Examiner in the Office Action mailed September 24, 2003.

## B. Second Issue

The second issue is whether claims 5, 7, 15, and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Baker* in view of *Fletcher* as asserted by the Examiner in the Office Action mailed September 24, 2003.

## C. Third Issue

The third issue is whether claims 6 and 16 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Baker* in view of *Siu* as asserted by the Examiner in the Office Action mailed September 24, 2003.

## VII. GROUPING OF CLAIMS

For purposes of this appeal brief only, and without conceding the teachings of any prior art reference, the claims have been grouped as indicated below:

For purposes of this Supplemental Appeal Brief Only, the claims have been grouped as follows:

Group I Claims 1-4 and 12-14.

Group II Claims 5, 7, 15, and 17.

Group III Claims 6 and 16.

Appellant has provided reasons for the separate patentability of each group in Section VIII, Arguments, herein of each claim group as required by MPEP § 1206.

#### VIII. ARGUMENTS

# A. Arguments Presented in First Appeal Brief

Appellant hereby incorporates by reference, per MPEP §1208.02, the arguments presented in the first Appeal Brief filed on July 15, 2003. These arguments still stand where applicable.

#### B. First Issue

# 1. Rejection Under 35 U.S.C. § 102(e)—Baker

Claims 1-4 and 12-14 were rejected under 35 U.S.C. § 102(e) as being anticipated by *Baker* in the Office Action mailed September 24, 2003 which reopened prosecution.

It is well settled that to anticipate a claim, the reference must teach every element of the claim. MPEP §2131. Appellant respectfully asserts that the rejection does not satisfy this requirement.

# Failure to teach every element of the claim

# **Independent Claims**

# Claim 1

Claim 1 recites, in part:

scaling the current range and the size of the portions, if the data value is not within the current range.

## Claim 12

Claim 12 recites, in part:

logic for scaling the current range and the size of the portions, if the data value is not within the current range.

Baker fails to teach these elements. Baker teaches a data analysis computer system to store measurement data from multiple distinct predefined processes. (Baker, col. 3, lns 11-15). The Examiner relies on a portion of Baker relating to control and trend charts as reading on this element. Baker discloses that each control and trend chart is displayed with an 6

expand bar (250) located at the bottom of the chart. (Baker, col. 14, lns 11-14). The expand bar has an expansion selection element (252) located between the two ends of the expand bar (250) that allows the user to move to various positions along the expand bar (250). Baker further discloses that the chart display routine (200) in the engineering module (26) will scale the displayed data analysis chart according to the position of the expansion selection element. (Baker, col. 14, lns 17-21). Thus, when the expansion selection element (250) is all the way to the right side, the displayed data will be compressed so that all data from a selected folder will be shown on the display, and when the expansion selection element (250) is all the way to the left side, the displayed data will zoom in and display only one data point. (Baker, col. 14, lns 21-27). Therefore, the use of this expansion selection element (250) allows a user to adjust the data display to zoom in and display one data point or to zoom out and show all data points from a selected folder. However, this does not teach the scaling of a current range and size of the portions if the data is not within the current range as required by claims 1 and 12. The expansion selection element merely allows a user to zoom in on or expand a display of data, but the expansion selection element does not teach the scaling of the current range and size of portions if a data value is not within the current range. Thus, Baker fails to teach all the elements of claims 1 and 12.

## Inherency

Furthermore, Appellant hereby traverses the Examiner's assertion that these steps are inherent in displaying any GUI display of a graph. (See September 24, 2003 Office Action at 6). In order to properly establish a rejection based on inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. MPEP § 2112, citing *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis original). However, in making this assertion of inherency, the Examiner has failed to provide any basis in fact and/ or technical reasoning to support such determination. As such, the Examiner must provide documentary evidence of such assertion in the next response if the rejection is to be maintained. MPEP § 2144.02 (C). Thus, *Baker* fails to teach scaling the current range and the size of the portions, if the data value is not within the current range. Therefore, Appellant respectfully requests that the rejection under 35 U.S.C. § 102 for claims 1 and 12 be withdrawn.

# **Dependent Claims**

Claims 2-11 and 13-20 depend directly or indirectly from their respective base claims 1 and 12 and thereby inherit all of the respective limitations. Accordingly, it is respectfully submitted that the dependent claims are allowable based on at least their dependency from independent base claims 1 and 12 for at least the reasons discussed above. Thus, Appellant respectfully submits that based on the arguments above, claims 2-11 and 13-20 are patentable under 35 U.S.C. § 102.

## 2. Conclusion

Appellants respectfully assert that the teachings of *Baker* fail to teach each and every element of claims 1-4 and 12-14 as detailed above. Therefore, reversal of this rejection is courteously solicited.

Acceptance of these arguments will result in the reversal of the rejections of the claims of Group I.

## C. Second Issue

# 1. Rejection under §103(a)—combination of Baker in view of Fletcher

The Examiner rejected claims 5, 7, 15, and 17 under 35 U.S.C. § 103(a) as being unpatentable over *Baker* in view of *Fletcher*.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. See M.P.E.P. §2143. Without conceding the second criteria, Appellant asserts that the rejection does not satisfy the first and third criteria.

## Lack of Motivation

The Examiner admits in the Office Action mailed September 24, 2003 (Third Office Action), that *Baker* fails to teach using data that consists of network delay times for packets. (Third Office Action at 4). The Examiner attempts to cure this deficiency by using the teachings of *Fletcher*. In making such a combination, the Examiner asserts in the Third Office Action that the motivation to incorporate data consisting of time delays insures that relevant data is displayed. (See Third Office Action at 4). The Examiner further asserts that it would have been obvious to incorporate various time delay data as taught in *Fletcher* into *Baker* because *Baker* operates with graphical data and *Fletcher* suggests that said data can be displayed on a GUI.

However, the mere fact that references can be combined is not sufficient to establish a prima facie case of obviousness. MPEP § 2143.01. Appellant respectfully asserts that the recited motivation is merely a statement that such references can be combined or modified but does not provide any desirability for such a combination. Moreover, *Baker* already teaches the use of a GUI. For instance, *Baker* teaches trend charts shown in Figures 4, 5, and 6 which allow a user to interact and select other data analysis options. (*Baker*, col. 8, lns 64-68). Thus, the motivation provided for the combination of *Baker* and *Fletcher* is improper as it does not establish the desirability for making the proposed modification/combination.

## Failure to teach all claim limitations

Claims 5, 7, 15, and 17 depend from base claims 1 and 12, respectively, and thus inherit all the limitations of their respective base claims. As pointed out above, *Baker* fails to teach all the limitations of independent claims 1 and 12, and *Fletcher* is not relied upon as teaching these limitations. Thus, the combination of *Baker* in view of *Fletcher* fails to teach all the claim limitations of claims 5, 7, 15, and 17. Thus, Appellant respectfully requests that the rejection under 35 U.S.C. § 103 for claims 5, 7, 15, and 17 be withdrawn.

## 2. Conclusion

Appellants respectfully assert that proper motivation to combine *Baker* and *Fletcher* has not been established and the teachings of *Baker* in view of *Fletcher* fail to teach each and

every element of claims 5, 7, 15, and 17 as detailed above. Therefore, reversal of this rejection is courteously solicited.

Acceptance of these arguments will result in the reversal of the rejections of the claims of Groups II.

## D. Third Issue

# 1. Rejection under § 103 (a)—Combination of Baker in view of Siu

The Examiner rejected claims 6 and 16 under 35 U.S.C. § 103(a) as being unpatentable over *Baker* in view of *Siu*.

To establish a prima facie case of obviousness under 35 U.S.C. § 103(a), the prior art cited must teach or suggest all the claim limitations. MPEP § 2143. Appellant respectfully asserts that the cited references do not teach or suggest all the claim limitations of claims 6 and 16, and therefore, the claims are not obvious under 35 U.S.C. § 103(a).

# Failure to teach all claim limitations

Claims 6 and 16 depend from base claims 1 and 12, respectively, and thus inherit all the limitations of their respective base claims. As pointed out above, *Baker* fails to teach all the limitations of independent claims 1 and 12, and *Siu* is not relied upon as teaching these limitations. Thus, the combination of *Baker* in view of *Siu* fails to teach all the claim limitations of claims 6 and 16. Thus, Appellant respectfully requests that the rejection under 35 U.S.C. § 103 for claims 6 and 16 be withdrawn.

# 2. Conclusion

Appellants respectfully assert that the teachings of *Baker* in view of *Siu* fail to teach each and every element of claims 6 and 16 as detailed above. Therefore, reversal of this rejection is courteously solicited.

Acceptance of these arguments will result in the reversal of the rejections of the claims of Groups III.

## IX. CLAIMS INVOLVED IN THE APPEAL

A copy of the claims involved in the present appeal is attached hereto as Appendix A. As indicated above, the claims in Appendix A do include a current amendment to dependent claim 17. This amendment is made to correct a typographical error so that claim 17 correctly depends from independent claim 12.

Appellant believes no fee is due with this Supplemental Appeal Brief. However, if a fee is due, please charge our Deposit Account No. 50-1078, under Order No. 10981247-1 from which the undersigned is authorized to draw.

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail Airbill No. EV256030729US in an envelope addressed to: MS Appeal Brief – Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date of Deposit: 12/18/03

Typed Name: John Pallivathukal

Signature:

Respectfully submitted,

Michael A. Papalas

Registration No.: 40,381 Attorney for Applicant

Date: 12/18/03

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## APPENDIX A

# Claims Involved in the Appeal of Application Serial No. 09/456,603:

1. (Original) A method for managing performance data about a network for graphical display, wherein the performance data is in the form of data values, wherein method uses a plurality of bins for maintaining a count of instances that data values are within a current range, wherein each bin maintains a number of instances that data values are within a particular portion of the current range, wherein each portion has an equal size, and wherein the method further uses an array for maintaining performance data values that are not within the current range, the method comprising the steps of:

receiving a data value;

determining whether the data value is within the current range;

incrementing the number of a particular bin of the plurality of bins, if the data value is within the current range, wherein the particular bin is selected based on the data value;

storing the data value in the array, if the data value is not within the current range; and scaling the current range and the size of the portions, if the data value is not within the current range.

- (Original) The method of claim 1, further comprising the step of:
   repeating the steps of determining, incrementing, storing and scaling for each received data value.
- (Original) The method of claim 1, further comprising the step of: formatting the numbers for graphical display based on the size of the portions and the current range.
  - 4. (Original) The method of claim 3, further comprising the step of: displaying the formatted numbers as a graph to a user.
- 5. (Original) The method of claim 1, wherein the network transports data packets, and the data values are latencies in transporting the data packets through the network.

6. (Original) The method of claim 1, further comprising the step of: determining an amount of jitter that the network is incurring from the numbers of the plurality of bins.

- 7. (Original) The method of claim 1, further comprising the step of: re-calculating the numbers of the plurality of bins according to the scaled size of the portions.
- 8. (Original) The method of claim 1, wherein the plurality of bins are one set of bins of a plurality of sets of bins, wherein each set of bins is formed from one dimension of elements of a two dimensional array, the step of scaling comprises:

incrementing an index to point to a subsequent set of bins in the two dimensional array; and

multiplying the current range and the size of the portions by a factor.

- 9. (Original) The method of claim 8, wherein: the factor is 2.
- 10. (Original) The method of claim 8, further comprising the steps of: receiving a subsequent data value;

determining whether the subsequent data value is within the factored range;

incrementing the number of a particular bin of the plurality of bins, if the subsequent data value is within the factored range, wherein the particular bin is selected based on the subsequent data value;

storing the subsequent data value in the array, if the subsequent data value is not within the factored range; and

scaling the factored range and the size of the factored portions, if the subsequent data value is not within the factored range.

11. (Original) The method of claim 10, further comprising the step of: re-calculating the numbers of the plurality of bins according to the scaled size of the factored portions.

12. (Original) A system for managing performance data about a network for graphical display, wherein the performance data is in the form of data values, wherein the system comprises:

a plurality of bins for maintaining a count of instances that data values are within a current range, wherein each bin maintains a number of instances that data values are within a particular portion of the current range, wherein each portion has an equal size;

an array for maintaining performance data values that are not within the current range; logic for receiving a data value;

logic for determining whether the data value is within the current range;

logic for incrementing the number of a particular bin of the plurality of bins, if the data value is within the current range, wherein the particular bin is selected based on the data value;

logic for storing the data value in the array, if the data value is not within the current range; and

logic for scaling the current range and the size of the portions, if the data value is not within the current range.

13. (Original) The system of claim 12, further comprising:

logic for formatting the numbers for graphical display based on the size of the portions and the current range.

- 14. (Original) The system of claim 13, further comprising: a display for presenting the formatted numbers as a graph to a user.
- 15. (Original) The system of claim 12, wherein the network transports data packets, and the data values are latencies in transporting the data packets through the network.
  - 16. (Original) The system of claim 12, further comprising:

logic for determining an amount of jitter that the network is incurring from the numbers of the plurality of bins.

17. (Currently Amended) The system of claim [[1]] 12, further comprising: logic for re-calculating the numbers of the plurality of bins according to the scaled size of the portions.

18. (Original) The system of claim 12, wherein the plurality of bins are one set of bins of a plurality of sets of bins, wherein each set of bins is formed from one dimension of elements of a two dimensional array, the logic for scaling comprises:

logic for incrementing an index to point to a subsequent set of bins in the two dimensional array; and

logic for multiplying the current range and the size of the portions by a factor.

19. (Original) The system of claim 18, further comprising:

logic for receiving a subsequent data value;

logic for determining whether the subsequent data value is within the factored range; logic for incrementing the number of a particular bin of the plurality of bins, if the subsequent data value is within the factored range, wherein the particular bin is selected based on the subsequent data value;

logic for storing the subsequent data value in the array, if the subsequent data value is not within the factored range; and

logic for scaling the factored range and the size of the factored portions, if the subsequent data value is not within the factored range.

20. (Original) The system of claim 19, further comprising:

logic for re-calculating the numbers of the plurality of bins according to the scaled size of the factored portions.